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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/993,331	11/06/2001	Erik M. Geidl	137683.783.2	5686

47973 7590 11/15/2006

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EXAMINER	
VO, HUYEN X	

ART UNIT	PAPER NUMBER
2626	

DATE MAILED: 11/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/993,331	GEIDL ET AL.	
	Examiner	Art Unit	
	Huyen X. Vo	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11/6/2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 1 and 15 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

3. Claims 1 and 15 are drawn to a "program" *per se* as recited in the preamble (*computer-implemented method and executable program, respectively*) and as such is non-statutory subject matter. See MPEP § 2106.IV.B.1.a. Data structures not claimed as embodied in computer readable media are descriptive material *per se* and are not statutory because they are not capable of causing functional change in the computer. See, e.g., *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention, which permit the data structure's functionality to be realized. In contrast, a claimed computer readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory. Similarly, computer programs claimed as computer listings *per se*, i.e., the descriptions or expressions of the programs are not physical

"things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program's functionality to be realized.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lucas et al. (US 6834264) in view of Dragosh et al. (US 6078886).

6. Regarding claims 1 and 14, Lucas et al. disclose that in a computing device and computer-readable medium, a computer-implemented method for recognizing natural human input, the method comprising:

receiving, at a system component, natural input data directed to an input field from a plurality of input fields of an executing program (*col. 3, lines 1-40 includes audio input and forms having a plurality of fields*), wherein the natural input data comprises an input other than textual input (*col. 3, lines 1-40, audio input and the system is directed to*

speech recognition system), the natural input data entered into the computing device by a user of the computing device (*col. 3, lines 1-40, speech is inputted by a user*);

determining, external to the executing program, the context of the input field (*col. 3, lines 1-15, each field having a unique context such as Name, Address, and Subjective; the user determines which field to fill in*);

analyzing the natural input data directed to the input field based on the user-specific biasing information retrieved for the input field (*col. 3, lines 17-62, recognizing input speech using user-specific speech models or user-specific biasing information*); and

providing a recognition result of the natural input data to the executing program for inclusion in the input field, the recognition result biased by the user-specific biasing information and comprising at least one computer code corresponding to recognition of the natural input (*col. 5, line 60 to col. 6, line 67*).

Lucas et al. fail to specifically disclose each input field having a context associated with a corresponding user-specific biasing information that is different from user-specific biasing information of one or more other input fields, and retrieving corresponding user-specific biasing information for the input field based on the determined context of the input field. However, Dragosh et al. teach each input field having a context associated with a corresponding user-specific biasing information that is different from user-specific biasing information of one or more other input fields (*col. 9, lines 14-30, it is inherent that the biasing information is somehow associated with the each field so that enabling the system to request the exact grammar for the speech*

recognizer), and retrieving corresponding user-specific biasing information for the input field based on the determined context of the input field (*col. 9, lines 14-30, requesting grammars specific to each field of form for the speech recognizer*).

Since Lucas et al. and Dragosh et al. are analogous art because they are from the same field of endeavor, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Lucas et al. by incorporating the teaching of Dragosh et al. in order to reduce processing time and improve speech recognition accuracy by introducing field-specific speech models.

7. Regarding claim 15, Lucas et al. in a computing device having an executable program, a computer system comprising:

a human input recognition engine configured to convert natural input data to recognition results, wherein the natural input data comprises an input other than textual input, each recognition result comprising at least one computer code (*col. 3, lines 1-40, audio input and the system is directed to speech recognition system; speech recognition engine is a software program, which converts input speech into text*);

a field determination mechanism that determines contexts for at least some input fields of executable programs as determined contexts (*col. 3, lines 1-15, each field having a unique context such as Name, Address, and Subjective; the user determines which field to fill in*);

at least one database that maintains biasing information for a plurality of the determined contexts (*voice profile data base 37 in figure 1 contains speech recognition models or biasing information for all fields*), and

an input system configured to:

1) receive natural input data directed to an input field from among a plurality of input fields of the executing program (*col. 3, lines 1-40 includes audio input and forms having a plurality of fields*), the natural input data entered into the computing device by a user of the computing device (*col. 3, lines 1-40, speech is inputted by a user*).

2) communicate with the field determination mechanism to obtain the determined context of the input field to which the natural input data is directed (*col. 3, lines 1-15, each field having a unique context such as Name, Address, and Subjective; when the user indicates the field needed to be filled in, the system processor inherently remembers that particular field and its unique context so that result of the recognition can be appropriately inputted into that field; the system processor is traditionally known to be responsible for all system communications*);

3) retrieving corresponding user-specific biasing information for the input field from the database that corresponds to the determined context;

4) communicate the natural input data and the user-specific biasing information to the recognition engine and receive a recognition result there from, the recognition result from analyzing the natural input data based on the user-specific biasing information for the input field (*col. 3, lines 17-62, recognizing input speech using user-specific speech models or user-specific biasing information*); and

5) provide to the executing program at least one computer code corresponding to the recognition result received from the recognition engine *col. 5, line 60 to col. 6, line 67*).

Lucas et al. fail to specifically disclose each input field having a context associated with a corresponding user-specific biasing information that is different from user-specific biasing information of one or more other input fields, and retrieving corresponding user-specific biasing information for the input field from the database that corresponds to the determined context. However, Dragosh et al. teach each input field having a context associated with a corresponding user-specific biasing information that is different from user-specific biasing information of one or more other input fields (*col. 9, lines 14-30, it is inherent that the biasing information is somehow associated with the each field so that enabling the system to request the exact grammar for the speech recognizer*), and retrieving corresponding user-specific biasing information for the input field from the database that corresponds to the determined context (*col. 9, lines 14-30, requesting grammars specific to each field of form for the speech recognizer*).

Since Lucas et al. and Dragosh et al. are analogous art because they are from the same field of endeavor, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Lucas et al. by incorporating the teaching of Dragosh et al. in order to reduce processing time and improve speech recognition accuracy by introducing field-specific speech models.

8. Regarding claim 30, Lucas et al. disclose that in a computing device, a system comprising:

a field determination mechanism that determines a context of an input field from among a plurality of input fields in an executable program and provides a factoid associated therewith (*col. 3, lines 1-15, each field having a unique context such as Name, Address, and Subjective; the user determines which field to fill in; factoid is interpreted as linguistics models used to verify recognition results elements 343-344 in figure 3B*);

a database of biasing information including sets of user-specific bias data corresponding to factoids (*voice profile data base 37 in figure 1 contains speech recognition models or biasing information for all fields*);

an input system configured to receive natural input data directed towards the input field (*element 336 in figure 3B*), to obtain a factoid from the field determination mechanism, and to obtain user-specific bias data corresponding to the factoid (*figure 3B, elements 334 and 342-344, factoid is the linguistic models or vocabularies*), wherein the natural input data comprises an input other than textual input (*col. 3, lines 1-40, audio input and the system is directed to speech recognition system*);

a human input recognizer that converts natural input to computer codes (*commonly known in digital system, which understands only digital signal rather than analog signal*), the recognizer configured to receive the user-specific bias data and the natural input data from the input system, to analyze the natural input data based on the user-specific bias data corresponding (*figure 3B, elements 334 and 342-344*), and to

provide a recognition result comprising a set of at least one computer code to the input system based on the natural input data, and the user- specific bias data, the recognition result biased by the user-specific bias data (*col. 3, lines 17-62, recognizing input speech using user-specific speech models or user-specific biasing information*); and

the input system returning data to the executable program that corresponds to the recognition result (*output of the speech recognizer*).

Lucas et al. fail to specifically disclose the user-specific bias data corresponding to the factoid for the input field differing from user-specific bias data corresponding to factoids for one or more other input fields of the executable program. However, Dragosh et al. teach the user-specific bias data corresponding to the factoid for the input field differing from user-specific bias data corresponding to factoids for one or more other input fields of the executable program (*col. 9, lines 14-30, it is inherent that the biasing information is somehow associated with the each field so that enabling the system to request the exact grammar for the speech recognizer*).

Since Lucas et al. and Dragosh et al. are analogous art because they are from the same field of endeavor, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Lucas et al. by incorporating the teaching of Dragosh et al. in order to reduce processing time and improve speech recognition accuracy by introducing field-specific speech models.

9. Regarding claims 2-4, Lucas et al. further disclose the method of claim 1 wherein the user-specific biasing information comprises a factoid including at least one validation rule (*linguistic models 343-344 in figure 3B contain words expected to be spoken by the user; they are rules for comparing with recognition results to determine what the user has spoken*), and wherein the factoid is developed based on communicating with the executing program (*figure 3B, these vocabularies along with the user's speech recognition models are fed to the speech recognizer for determining a correct recognition result*), and wherein providing the recognition result to the executing program includes providing the factoid to a recognition engine (*figure 3B, these vocabularies along with the user's speech recognition models are fed to the speech recognizer for determining a correct recognition result*).

10. Regarding claims 5 and 7-8, Lucas et al. further disclose the method of claim 1 wherein the user-specific biasing information comprises a set of user bias data (*element 342 in figure 3B*), harvesting the user bias data from at least one data store accessible to the computing device (*figure 3B, elements 334 and 342-344*), and wherein providing a recognition result to the executing program includes providing the set of user bias data to a recognition engine (*figure 3B, elements 334 and 342-344*).

11. Regarding claim 6, Lucas et al. further disclose the method of claim 5 further comprising, maintaining the set of user bias data in a user bias database, and retrieving the set of user bias data from the database (*figure 3B, speech recognizer 334 requests*

acoustic models and linguistic models from elements 342-344). Lucas et al. fail to specifically disclose the step of retrieving the set of user bias data from the database by querying the database with a key that corresponds to the input field. However, Dragosh et al. teach the step of retrieving the set of user bias data from the database by querying the database with a key that corresponds to the input field (*col. 9, lines 14-30; also referring to figures 3 or 4 server side, particularly grammar identifier and/or grammar handle*).

Since Lucas et al. and Dragosh et al. are analogous art because they are from the same field of endeavor, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Lucas et al. by incorporating the teaching of Dragosh et al. in order to reduce processing time and improve speech recognition accuracy by calling specific grammar rules.

12. Regarding claim 9, Lucas et al. further disclose the method of claim 1 wherein the user-specific biasing information comprises a factoid including at least one validation rule and a set of user bias data (*vocabularies 343-344 and user voice model 342 in figure 3B*), and wherein providing the recognition result to the executing program includes providing the factoid and the set of user bias data to a recognition engine (*voice recognition 334 in figure 3B*).

13. Regarding claims 10-11, Lucas et al. further disclose the method of claim 1 wherein determining the context of the field includes generating a field signature (*col. 3,*

lines 1-15, each field is unique for each other and each is considered a field signature), and wherein the input field corresponds to a window (*element 14, forms 1-N*), and wherein generating a field signature includes acquiring window attribute data (*col. 3, lines 1-15, since the field is unique, each field must/inherently include attribute or unique ID that enables the system to identify*).

14. Regarding claims 12-13, Lucas et al. further disclose the method of claim 1 wherein determining the context of the input field includes communicating with the executing program (*col. 3, lines 1-15; user's action indicating the field to fill in is remember by the processor of the system*), and wherein the natural input data comprises speech or handwriting data (*speech recognition 334 in figure 3B*).

15. Regarding claim 16, Lucas et al. further disclose the system of claim 15 wherein the field determination mechanism includes a field signature engine that generates a field signature corresponding to the context based on characteristics of the input field (*col. 5, line 60 to col. 6, line 13, form/fields generation; signature fields such as Name, Address, and Subjective indicated in col. 3, lines 1-15*).

16. Regarding claim 17, Lucas et al. further disclose the system of claim 16 wherein the characteristics of the input field include text displayed proximate the field (*forms 1-N in figure 1*).

17. Regarding claim 18, Lucas et al. further disclose the system of claim 15 wherein the natural input data comprises speech or handwriting data (*speech recognizer 334 in figure 3B*).

18. Regarding claim 19, Lucas et al. further disclose the system of claim 15 wherein the at least one database of biasing information comprises a database of factoids, and wherein the input system communicates the biasing information including a factoid having at least one associated validation rule to the recognition engine (*linguistic models 343-344 in figure 3B contain words expected to be spoken by the user; they are rules for comparing with recognition results to determine what the user has spoken*).

19. Regarding claims 20 and 31, Lucas et al. further disclose the system of claims 19 and 31, respectively, wherein the field determination mechanism includes a field signature engine that generates a field signature corresponding to the field type based on characteristics of the input field (*col. 5, line 60 to col. 6, line 13, form/fields generation; signature fields such as Name, Address, and Subjective indicated in col. 3, lines 1-15*), but fail to specifically disclose that each of the factoids in the database are keyed by an index corresponding to the field signature. However, Dragosh et al. teach that each of the factoids in the database are keyed by an index corresponding to the field signature (*col. 9, lines 14-30; also referring to figures 3 or 4 server side, particularly grammar identifier and/or grammar handle*).

Since Lucas et al. and Dragosh et al. are analogous art because they are from the same field of endeavor, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Lucas et al. by incorporating the teaching of Dragosh et al. in order to reduce processing time and improve speech recognition accuracy by calling specific grammar rules.

20. Regarding claim 21, Lucas et al. further disclose the system of claim 15 wherein the at least one database of biasing information comprises a database of sets of user bias data (*elements 342-344 in figure 3B*), and wherein the input system communicates the biasing information including a set of user bias data to the recognition engine (*elements 342-344 in figure 3B, speech models as well as vocabularies are sent to the speech recognizer for processing of the input speech*).

21. Regarding claim 22, Lucas et al. further disclose the system of claim 21, wherein the user bias data set communicated to the recognition engine retrieved from the database of sets of user bias data (*figure 3B, speech recognizer 334 requests acoustic models and linguistic models from elements 342-344*), but fail to specifically disclose the step of retrieving user bias data set from the database based on the field type determined by the field determination mechanism. However, Dragosh et al. teach the step of retrieving user bias data set from the database based on the field type determined by the field determination mechanism (*col. 9, lines 14-30; also referring to figures 3 or 4 server side, particularly grammar identifier and/or grammar handle*).

Since Lucas et al. and Dragosh et al. are analogous art because they are from the same field of endeavor, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Lucas et al. by incorporating the teaching of Dragosh et al. in order to reduce processing time and improve speech recognition accuracy by calling specific grammar rules.

22. Regarding claims 23-26, Lucas et al. further disclose the system of claim 21 wherein the database is securely maintained on the computing device (*elements 342-344 in figure 3B*), and a data harvesting engine that obtains at least some of the user bias data from at least one data store accessible to the computing device (*elements 342-344 in figure 3B elements 342-344 in figure 3B, speech models and linguistic models are stored in system's memory that is accessible by the system*), and wherein the database of sets of user bias data includes at least some data that was not harvested by the harvesting engine (*342-344 in figure 3B elements 342-344 in figure 3B contains many sets of speaker-dependent models, each set belongs a particular user. The system retrieves only the set of speaker-dependent models that belongs to the speaker identified*), and wherein the data harvesting engine operates as a background process (*the system of figure 3B processes the input speech and compared the processed input speech against the models stored in the system database*).

23. Regarding claim 27, Lucas et al. further disclose the system of claim 15 wherein the at least one database of biasing information comprises a first database of factoids

and a second database of sets of user bias data, and wherein the input system communicates the biasing information including a factoid and a set of user bias data to the recognition engine (*elements 342-344 in figure 3B contains both speech models and linguistic models (factoids) that are fed to the speech recognizer 334 for processing of the input speech*).

24. Regarding claims 28-29 and 32, Lucas et al. further disclose the system of claims 27 and 30, respectively, wherein the factoid and the user bias data are retrieved from their respective databases based on the field type (*elements 342-344 in figure 3B contains both speech models and linguistic models (factoids) that are fed to the speech recognizer 334 for processing of the input speech*), wherein the factoid includes information corresponding to at least one criterion with which the recognition result should comply (*linguistic models are considered as rules that used by the speech recognizer to determine the recognition result*).

Conclusion

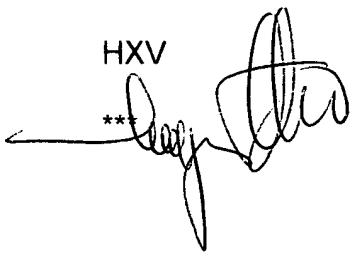
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huyen X. Vo whose telephone number is 571-272-7631. The examiner can normally be reached on M-F, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on 571-272-7602. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HXV



11/2/2006